

CLAIMS:

1. A composite article comprising conductive fiber strands dispersed in a polymer matrix wherein said fibers have a chemical treatment coating comprising an organic material having a viscosity at a temperature range of 80 °C 0180 °C no greater that 1500 cps

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2. The composite of claim 1 wherein the viscosity of the organic material at a temperature range of 80 °C - 180 °C is no greater than 800 cps.

3. The composite of claim 1 wherein the viscosity of the organic material at a temperature range of 80 °C - 180 °C is no greater than 400 cps.

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4. The composite of claim 1 wherein the viscosity of the organic material at a temperature range of 80 °C - 180 °C is no greater than 200 cps.

5. The composite of claim 1 wherein the viscosity of the organic material at a temperature range of 80 °C - 180 °C is no greater than 75 cps.

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6. The composite of claim 1 wherein the viscosity of the organic material at a temperature range of 80 °C - 180 °C is no greater than 25 cps.

7. The composite of claim 1 wherein the viscosity of the organic material at a temperature range of 80 °C - 180 °C is no greater than 5 cps.

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8. The composite of claim 1 wherein the organic material comprises monomers or oligomers or mixtures thereof.

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9. The composite of claim 1 wherein the organic material is chosen from the group consisting of bisphenol A, propoxylated bisphenol A, diphenyl ether, diphenyl sulfone, stilbene, diglycidyl ether of bisphenol A, triglycidylisocyanurate, citric acid, pentaerythritol, dicyandiimide, 4,4'-sulfonyldianiline, 3,3'-sulfonyldianiline, stearate-

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capped propyleneglycol fumarate oligomer, butoxyethylstearate, ethylene carbonate, sorbitan monostearate, hydrogenated vegetable oil, and mixtures thereof.

5 10. The composite of claim 1 wherein the polymer matrix is a thermoset or thermoplastic polymer.

10 11. The composite of claim 1 wherein the polymer matrix is chosen from the group consisting of polycarbonate, acrylonitrile butadiene styrene, polycarbonate acrylonitrile butadiene styrene copolymer, polybutylene terephthalate, styrene, polypropylene, and nylon.

15 12. The composite of claim 1 wherein the conductive fiber strands comprise conductive fibers chosen from a group consisting of carbon fiber, metalized carbon fiber, metalized glass fiber, metal fiber, metal alloy fiber and mixtures thereof.

13. The composite of claim 1 wherein the strands have an average length of between 2mm to 12mm

20 14. The composite of claim 1 wherein the strands comprise bundles of at least 40 conductive fibers

25 15. A plurality of pellets capable of being consolidated into an electrically shielded composite wherein said pellets comprise a core of conductive fibers; wherein said core has a coating comprising an organic material having a viscosity at a temperature range of from 80 °C - 180 °C no greater than 1500 cps; and wherein said core and said coating are encased by a polymer.

30 16. The pellets of claim 15 wherein the pellets are capable of being consolidated into a composite without the addition of any other material.

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17. The pellets of claim 15 wherein the pellets have an average length of between 2mm to 12mm

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18. The pellets of claim 15 wherein the core is a strand comprising bundles of at least 40 conductive fibers.

19. The pellets of claim 15 wherein the organic material has a viscosity at a temperature range of from 80 °C - 180 °C no greater than 400 cps.

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20. The pellets of claim 15 wherein the organic material has a viscosity at a temperature range of from 80 °C - 180 °C no greater than 200 cps.

21. The pellets of claim 15 wherein the organic material has a viscosity at a temperature range of from 80 °C - 180 °C no greater than 75 cps.

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22. The pellets of claim 15 wherein the organic material has a viscosity at a temperature range of from 80 °C - 180 °C no greater than 5 cps.

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23. The pellets of claim 15 wherein the organic material comprises monomers or oligomers or mixtures thereof.

24. The pellets of claim 15 wherein the organic material is chosen from the group consisting of bisphenol A, propoxylated bisphenol A, diphenyl ether, diphenyl sulfone, stilbene, diglycidyl ether of bisphenol A, triglycidylisocyanurate, citric acid, pentaerythritol, dicyandiimide, 4,4'-sulfonyldianiline, 3,3'-sulfonyldianiline, stearate-capped propyleneglycol fumarate oligomer, butoxyethylstearate, ethylene carbonate, sorbitan monostearate, hydrogenated vegetable oil, and mixtures thereof

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25. The pellets of claim 15 wherein the polymer is a thermoset or thermoplastic polymer.

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26. The composite of claim 15 wherein the polymer is chosen from the group consisting of polycarbonate, acrylonitrile butadiene styrene, polycarbonate acrylonitrile butadiene styrene copolymer, polybutylene terephthalate, styrene, polypropylene, and nylon

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27. The pellets of claim 15 wherein the core comprises chosen from the group consisting of carbon fiber, metalized carbon fiber, metalized glass fiber, metal fiber, metal alloy, fiber and mixtures thereof.

10 28. A method for making pellets capable of being consolidated into an electromagnetic shielded composite comprising the steps of:

- a) producing a chemically treated strand by coating conductive fibers with a chemical treatment comprising an organic material having a viscosity at a temperature of from 80 °C - 180 °C no greater than 1500 cps
- 15 b) producing a sheathed strand by encasing the chemically treated strand with a polymer
- c) chopping the sheathed strand to form pellets

20 29. A method for making an electromagnetic shielded product by consolidating the pellets of claim 15.

30. A method for making an electromagnetic shielded product by consolidating the pellets of claim 28.